

retained what Hellwald says concerning the English people.

The volume is quite equal to the best of its predecessors. The physical geography of Europe occupies quite one-half, and while necessarily of the nature of a summary, seems to us carefully and accurately written. The second part of the volume is devoted to what is known as "political" geography, while Mr. Chisholm has collected into an appendix a very useful series of statistical tables. As usual we have Prof. Keane's valuable ethnological appendix, occupying some thirty pages. Though Europe is the best-known of the Continents, its ethnology is more difficult to deal with than that of any other part of the world. "Races" and languages have become so mixed up and interchanged, that it is a matter of great difficulty to distinguish between the various elements. Mr. Keane has some difficult problems to face, but probably no one is more competent to solve them. His sections on "pure races" and "mixed languages" are of special interest; he rightly concludes that in Europe we have neither the one nor the other, nor probably will they be found in any part of the world. These ethnological appendices are quite worthy of being collected and extended and published separately as a useful manual of ethnology. The maps in the present volume are many, and of much scientific value. This "Compendium" as a whole may be accepted as a really trustworthy and manageable geographical reference-book.

Nine Years in Nippon; Sketches of Japanese Life and Manners. By Henry Faulds, L.F.P.S. (London: Alexander Gardner, 1885.)

THE author of this beautiful and entertaining volume is a missionary doctor who, in the course of his nine years' residence in Japan, has, as he tells us, mixed with every class in the country except the very highest. He has visited most of the usual sights, such as Fuji, Nikko, and the inland sea, but otherwise his professional duties appear to have kept him very close to Tokio. To make up for this he has seen the lower and middle classes of Japan as few other Europeans have had the opportunity of seeing them, and after all he is able to say that the land is not all barren. He stands up bravely against the redoubtable Miss Bird for the much-maligned morality of the Japanese people. He thinks that brilliant lady's dictum that the nation is sunk in immorality extremely harsh and erroneous. The recent intellectual progress of the Japanese is, he believes, very striking, though not as yet so general as many have supposed; their political progress is unprecedented, but he thinks that on the whole the moral elevation of the mass of the people within the last decade has been still more striking and noteworthy. A considerable portion of the volume is made up of bright, lively sketches of scenes by the way in Tokio, and along the roads in the interior. These are very well done, but they might almost be equally well done by an ordinary tourist with some literary gifts and graces. It is in the last half of the volume that we come on the real student and acute observer of Japan. It is only an old resident, whose familiarity with the everyday sights and sounds around him had never blunted his original sense of their picturesqueness and strangeness, that could have written the chapters on the Japanese philosophy of flowers, Japanese art in relation to nature, and how the Japanese amuse themselves. In connection with the universal spread of education throughout Japan (the author can only recall one or two clear instances in his experience of Japanese people being unable to read or write), he makes an observation which we do not remember to have seen or heard before, viz. that the cause is Buddhism. The effect of what he calls the new and genial enthusiasm of humanity, which came from India, taught everywhere the unity and brotherhood of man, and so literature could no longer be maintained as the peculiar possession of any caste of mere priests or

princes. "My Garden and its Guests" is a delightful chapter of popular natural history. In an introductory chapter, in which he surveys the canvas on which he is about to draw his sketches, he has a few words to say on the ethnology of the Japanese. He says that the Ainos, "in spite of a great deal of crude writing on the subject" (to which, it should be stated, Mr. Faulds has added his mite, though not in this book), cannot show any claim to be considered the aborigines; they are not necessarily older in their occupancy than the Japanese themselves. This heterodox statement is thrown off with a *nonchalant* air, as of one making a common matter-of-fact observation; but it would be interesting to know the author's grounds for it. The shell-heaps (to take only a single instance) which have been found near Tokio, and even farther south, and which resemble in every respect heaps formed, or in process of formation, outside Aino villages in Yezo, form a strong argument the other way; we were under the impression, also, that history told us of the existence of Ainos on the spot on which Ota Dokan built himself the fort which afterwards grew into Yedo in the fifteenth century. But it seems waste of time to refer to such matters in the case of a man who has the hardihood to confess that he does not know exactly what a Mongol is, and that he thinks it only deepens our ignorance immensely to call another race Mongoloid. To make up for this, however, and by way of washing his hands clear of the matter, he gives all the original theories by which science, aided by tradition, accounts for the original migration of the Japanese people. As there are six points of the compass (zenith and nadir being added) in far-eastern cosmography, so there are theories of migration from each one of these six points:—(1) the soil (Buddhist view); (2) America; (3) China, or Accadia; (4) Africa, or the Malay Peninsula, or the Southern Isles of the Pacific; (5) Saghalin, or Kamtschatka; (6) the celestial regions of the Sun; with which comprehensive category Mr. Faulds takes leave of ethnology. For the rest, the book is as charming in all externals as in its contents. It should take its place in the front rank among popular books on Japan; indeed, since Mitford's "Tales of Old Japan," we cannot recall a more interesting volume on the country, or one which should be more read in England.

LETTERS TO THE EDITOR

- [The Editor does not hold himself responsible for opinions expressed by his correspondents. Neither can he undertake to return, or to correspond with the writers of, rejected manuscripts. No notice is taken of anonymous communications.]
- [The Editor urgently requests correspondents to keep their letters as short as possible. The pressure on his space is so great that it is impossible otherwise to insure the appearance even of communications containing interesting and novel facts.]

Krakatoa

BY the return from the Caroline Islands, on the 25th inst., of the *Jennie Walker*, I am enabled to supply a few additional details about the westward progress of the equatorial smoke stream from Krakatoa in September 1883. In *NATURE*, October 2 (p. 537), is my extract from Miss Cathcart's journal describing the obscuration of the sun at Kusaie, or Strong's Island, on September 7, 1883. The Rev. Dr. Pease and wife came as passengers by the *Jennie Walker*. They state that, while they were dressing their children on the morning of September 7, the natives came anxiously asking what was the matter with the sun, which rose over the mountains with a strange aspect. It was cloudless, but pale, so as to be stared at freely. Its colour Dr. Pease called a sickly greenish-blue, as if plague-stricken. Mrs. Pease's journal described it as "of a bird's-egg-blue, softened as this colour would be by a thin gauze." Around the sun the sky was of a silvery gray. At the altitude of 45° the sun appeared of its usual brightness, but resumed its pallid green aspect as it declined in the west.

On the 8th the sun appeared as usual. They did not notice the red glares until some days after.

Strong's Island is in lat. $5^{\circ} 20' N.$, long. $163^{\circ} 10' E.$ Their 7th is our 6th, one day later than the tremendous display of colours in the Honolulu skies on September 5.

Dr. Pease reports a considerable drift of pumice-stone landed for several months past upon the west shore of Kusaie. Many pieces are from twelve to sixteen inches thick, and loaded with barnacles. I have now before me a piece of pumice presented by Dr. Pease, with small barnacles attached. Dr. Pease also reports many large trees landed there of late. They are up to five feet in diameter, with huge buttressing roots, much pumice jammed in the roots, their wood as light as cork. This species of tree is unknown in Micronesia. Are these corky trees, as well as the pumice, part of the wreckage of Krakatoa? Dr. Pease states that this year, as happened once before, the prevailing westerly current has been exchanged for one running easterly. Drift-logs of redwood from California frequently land on Kusaie, as they do here.

On the passage hither between Kusaie and Jaluit Dr. Pease saw large tracts of floating pumice in a comminuted state. The Rev. E. T. Doane of Ponape (lat. $6^{\circ} 47' N.$, long. $158^{\circ} 20' E.$) writes me that large quantities of pumice are floating around that island. Capt. Holland, of the *Jennie Walker*, states that all the way between Jaluit and Ruk or Hogolen, some 1500 miles, he encountered vast tracts of pumice. Many pieces were as large as hats. He met five or six large trees in the same regions. One with its branches was mistaken for a boat. This association of floating trees with pumice seems very suggestive of Krakatoa, especially as all have been long floating in the sea.

I send herewith a small slab of the pumice from Strong's Island, hoping that you will have it compared with known Krakatoa ejecta.

During the past month of December the sky-glows have doubled in brilliancy. A like augmentation of brilliancy took place at the same period in 1883, as reported by me in your columns. Permit the suggestion that the winter cold enlarges the concretions of ice around the dust-nuclei in the upper atmosphere, thereby multiplying their reflecting power. I see no reason to believe that any addition has been made to the original diffusion of dust from Krakatoa. The whitish corona which first appeared around the sun in September, 1883, has always and continuously been conspicuous since that time. It is one and the same continuous phenomenon which began here with that tremendous dust-cloud of September 5, 1883.

S. E. BISHOP

Hawaiian Government Survey, Honolulu, Dec. 29, 1884

Recent Earthquakes

EN relation possible, mais non probable, avec les tremblements de terre d'Espagne j'ai à vous signaler les secousses suivantes observées en Suisse :—

25 décembre, 1884—à Zernetz, Engadine, secousses à 8h. 17' S., et 11h. S., heure de Berne.

(8h. 17' heure de Berne correspond à 7h. 32' heure de Madrid. La première de ces secousses a donc eu lieu 20m. avant la grande secousse de Grenade du 25 déc. à 8h. 52' soir.)

1 janvier, 1885—2h. matin, légère secousse, signalée à Lausanne par un seul observateur.

21 janvier, 1885—Entre oh. et 1h. matin, secousse à Ennenda, canton de Glarus.

Dans les Alpes françaises.

le 5 janvier, 1885, à 3h. matin à Chambéry (Savoie).

à 5h. 50' matin à Embrun (Hautes Alpes).

Agréez, Monsieur, l'expression de mes sentiments très distingués.

F. A. FOREL

Morges, 24 janvier

ON Thursday evening last, at a time which is variously stated from 8.30 p.m. to shortly before 9, a rumbling noise, accompanied by a sensible trembling of the earth, and in some instances by a slight "rocking" of cottages, was heard and felt over several parishes in this neighbourhood. I have already had independent testimony of it from West Buckland, Bradford, Nymhead, and Langford, in a line from north-west to south-east across the upper part of the Vale of Taunton. Some observers state that the noise and motion seemed to come from the north-west. There can be but little doubt but that this was a slight

shock of an earthquake. It would be interesting to know whether anything of the same kind had been observed elsewhere at the same time.

W. A. SANFORD

Nymhead Court, Wellington, Somerset, January 24

The Lexden Earthquake

THE earthquake alleged to have taken place near Colchester on Sunday night, Jan. 18, and mentioned in the "Notes" of NATURE last week, on the authority of the *Standard* newspaper, turns out on inquiry to have been reported on very doubtful authority. The place referred to as "Leden" is evidently meant for Lexden, which is really a suburb of Colchester. Immediately after seeing the newspaper paragraph I communicated with some of the residents, asking them to obtain particulars for me, as the occurrence of another shock so near the district which was shaken in April of last year, would have been of considerable interest in connection with the report upon this last earthquake, which I am about to present to the Essex Field Club. It seems, however, according to the results of these inquiries, confirmed by a paragraph in the *Colchester Gazette* of January 21, that the shock was said to have been felt by one person only, the postman, and nobody else in the place heard or felt anything, nor was any crockery shaken or any vibration experienced in any other house. One gentleman, who was out of doors at the time mentioned (midnight), states that he heard a peal of thunder, but felt no shock, and he suggests that this might have awakened the postman, upon whose authority the newspaper paragraph appears to have been founded.

The statement that the shock was felt at Aldeburgh rests also on the authority of one person only, and it shows with what caution such statements should be received in the absence of instrumental records.

R. MELDOLA

21, John Street, Bedford Row, January 24

Barrenness of the Pampas

MR. EDWIN CLARK overlooks, I think, an important factor in the present treeless condition of the Pampas (of the La Plata, so far as my own knowledge extends only), and of the difficulty of establishing trees on those plains. North of Monte Video, for some hundreds of miles, the leaf-eating ant is omnipresent. I have seen streams of them running along the beaten paths to their nests, each ant carrying the yellow petals of some plant similar to the buttercup. When I first noticed, from my horse, this procession of golden leaves, I was greatly astonished. Familiarity, however, soon dispelled this. The *opima spolia* was being carried to their nests and taken under ground, no doubt as a provision for the winter. The ants were about a quarter of an inch in length, and of a beautiful steel-blue colour. Those I picked up for examination demonstrated their powers by shearing off the hard cuticle of my thumb or fore-finger with their mandibles. Subsequently, I made the acquaintance of a gentleman, well known in the Banda Oriental, the owner of the "Estancia Sherenden." He showed me a splendid grove of about two acres of *Eucalypti* of several species—the "blue" and "red" gum chiefly. These he had reared from seed, their enemies being these ants. As soon as the first leaves of his cherished plants appeared, the ants cut them off. He then got a drum of gas-tar sent up from town, and made a circle round each plant. The ants objected to this, and all the trees made a start. For three years in succession he carefully painted the stems with tar, and eventually they got so far away as to be able to supply the wants of their foes and still flourish. When I saw these trees they bore finer foliage than I ever met with in the Australian bush during four years' experience. They were then eight years old. Many were forty feet high, and thirty-six inches round at some three feet from the earth.

I think none of the animals mentioned by Mr. Clarke, *certainly not any of the rodents* in his list, would be likely to touch gum trees, and the repugnance to them of sheep, oxen, and horses in Australia is well known.

Maize grows freely in the Banda, but it grows too fast for these ants to destroy it. The attacks of those from nests within marching distance are powerless on an acre of Indian corn.

When I examined the *Eucalypti* at "Sherenden," many ants were coming down the trees with cuttings of the leaves in their mandibles.

If you will allow me a word of suggestion in addition, I would say to every one who establishes trees on the Pampas